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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,467	12/07/2000	James L. Marsh	10005272-1	3188

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EXAMINER

ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
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2193

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,467

Applicant(s)

MARSH ET AL.

Examiner

Trenton J. Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-10,18,20,21,27-29 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18,20,21,27-29,31-33 and 38-40 is/are allowed.
- 6) ☒ Claim(s) 1,4-10 and 34-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

RD

DETAILED ACTION

1. This Office action is responsive to communications filed 9 June 2005.
2. Per Applicant's request, amended claims 1, 9, 10, 18, 20, 21, 27, 28 and 31 have been entered. Claims 12-17 and 19 have been canceled. Newly added claims 34-40 have been entered.
3. Claims 1, 4-10, 18, 20, 21, 27-29 and 31-40 are pending and have been examined on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-8 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,795,912 to Itoh et al, hereafter referred to as Itoh.

Per claim 1:

Itoh discloses:

- a computer system communicatively coupled to a network (“communication with a server...” in col. 3 lines 2-3)
- an operating system (“first OS...” in col. 2 line 49)

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- a programmable non-volatile memory ("flash ROM comprising EEPROM..." in col. 8 line 66)
- at least one microprocessor operatively coupled to execute at least one instruction from the programmable non-volatile memory in response to a boot request, the microprocessor configured to controllably write to the programmable non-volatile memory ("When a power switch is turned on, an area of the flash ROM is accessed..." in col. 9 lines 42-43)
- at least one fixed storage device operatively coupled to the at least one microprocessor, ("the OS switching and booting program can also be installed in the HDD..." in col. 10 lines 44-45)
- wherein the at least one fixed storage device receives from the network at least a portion of a boot image comprising: a system loader, a firmware patch, a configuration file configured to direct the system loader to execute the firmware patch instead of the operating system in response to a subsequent boot request ("email is received by the computer system...the email is sent...attaching the boot image file of the second OS...including application program updating the BIOS, the OS switching and booting program...device drivers...and secondary storage unit I/O patch program...as binary files" in col. 11 lines 21-31. The device drivers are configuration files for directing the system to start the OS replacement, as seen in col. 12 lines 7-19, "the device driver hooks the termination of the first OS...")
- the firmware patch configured to write a firmware upgrade to the programmable non-volatile memory ("including application program updating the BIOS..." in col. 11 line 25)
- the firmware patch comprising: an install application; a firmware revision containing at least one instruction different from firmware within the programmable non-volatile memory ("including application program updating the BIOS..." in col. 11 line 25)

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- a flash application having a bootable kernel, firmware update logic, and a non-volatile memory interface, wherein the firmware update logic is executable on the microprocessor to write the firmware revision to the programmable non-volatile memory (“the boot image file of the second OS...including application program updating the BIOS...” in col. 11 lines 23-25. The update logic must execute if the firmware is to be replaced.)

substantially as claimed.

Per claim 4:

The rejection of claim 1 is incorporated, and further, Itoh discloses at least one fixed storage device receiving and storing new firmware as claimed (“application program updating the BIOS...downloading these binary files into a temporary directory of the second storage unit...” in col. 11 lines 25-32)

Per claim 5:

The rejection of claim 1 is incorporated, and further, Itoh discloses at least one fixed storage device receiving and storing an application as claimed (Note the rejection regarding claim 4)

Per claim 6:

The rejection of claim 1 is incorporated, and further, Itoh discloses the bootable kernel comprising a system loader interface and reboot logic as claimed (“composed of a boot image file of the second OS, device drivers, and a secondary storage unit I/O patch program. The boot image file of the second OS includes a second OS loader, a body of the second OS, and a predetermined application to be executed...” in col. 10 lines 52-56)

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Per claim 7:

The rejection of claim 6 is incorporated, and further, Itoh discloses a bootable kernel comprising an operating system as claimed (“boot image file of the second OS...” in col. 11 lines 23-24)

Per claim 8:

The rejection of claim 6 is incorporated, and further, Itoh discloses a bootable kernel comprising file management system as claimed (“boot image file of the second OS...” in col. 11 lines 23-24. The OS is a file management system.)

Per claim 34:

The rejection of claim 1 is incorporated, and further, Itoh discloses resetting the configuration file in the boot image to select the operating system to execute on a subsequent boot as claimed (“the present invention acquires information, which is used for booting a second OS, which is different from a first OS...” in col. 18 line 66 to col. 19 line 1. The device drivers must be reset such that the first OS is not loaded.)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,795,912 to Itoh et al, hereafter referred to as Itoh, in view of U.S. Patent 6,581,159 to Nevis et al. hereafter referred to as Nevis.

Per claims 35 and 36:

The rejection of claim 1 is incorporated, and further, while Itoh discloses executing the firmware upgrade patch on the computer system, Itoh does not explicitly disclose the firmware upgrade patch executing to verify whether the revised firmware is able to successfully upgrade the firmware. Nevis discloses in an analogous network-based firmware updating system the ability to verify whether the firmware update is capable of upgrading the system and reporting to a remote system as claimed (“The firmware update application may then perform some validation to verify that the firmware update is the correct one for the target computing platform...” in col. 3 lines 62-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the verification methods of Nevis with the firmware updating system disclosed by Itoh, as this help ensure that the firmware upgrade did not become corrupted while downloading via a network, as disclosed by Nevis in col. 3 lines 62-66.

8. Claims 9, 10 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,795,912 to Itoh et al, hereafter referred to as Itoh, in view of U.S. Patent 6,718,373 to Bearden et al, hereafter referred to as Bearden, further in view of U.S. Patent 6,581,159 to Nevis et al. hereafter referred to as Nevis.

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Per claims 9 and 37:

Itoh discloses:

- a computer system communicatively coupled to a network infrastructure (“communication with a server...” in col. 3 lines 2-3)
- the computer system configured with a non-volatile memory containing a common firmware version designated for replacement (“flash ROM comprising EEPROM...” in col. 8 line 66)
- a fixed storage device containing a boot image having appropriate instruction code suited to transition the respective computer system to an operational mode (“composed of a boot image file of the second OS, device drivers, and a secondary storage unit I/O patch program. The boot image file of the second OS includes a second OS loader, a body of the second OS, and a predetermined application to be executed...” in col. 10 lines 52-56)
- a user input device communicatively coupled to at least one computer system communicatively coupled to the network infrastructure (“downloaded by a user of the computer system starting browsing software...” in col. 10 lines 59-60)
- the at least one computer system configured with write access permission for the respective fixed storage device associated with the computer system, wherein an input from the user input device initiates a transfer of a firmware upgrade patch to the computer system (“the OS switching and booting program is downloaded from the server to the computer system as a binary file when the user selects...” in col. 11 lines 4-6. A patch memory map is inherently contained in the image file.)
- the firmware upgrade patch comprising a revised firmware and a bootable kernel different from an operating system operable on the respective computer system (“boot image file of the second OS...” in col. 10 line 54)

- the patch memory map comprising information that directs the computer system to one or more locations within the memory device (“the information for booting the second OS is composed of a boot image file of the second OS, device drivers, and a secondary storage unit I/O patch program. The boot image file of the second OS includes a second OS loader, a body of the second OS, and a predetermined application to be executed...” in col. 10 lines 51-56.)

substantially as claimed. Itoh does not explicitly disclose a plurality of computer systems receiving the updated software. Bearden discloses in an analogous software updating and installation system distributing software to a plurality of computer systems via a network (Note Figure 1 and the corresponding sections of the disclosure). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a plurality of client computer systems to the system disclosed by Itoh, which already describes a computer system communicatively coupled to a network, as this would allow a user to utilize a single server per client computer, as shown in Bearden, thereby reducing server costs.

Further, while Itoh discloses executing the firmware upgrade patch on the computer system, Itoh does not explicitly disclose the firmware upgrade patch executing to verify whether the revised firmware is able to successfully upgrade the common firmware version. Nevis discloses in an analogous network-based firmware updating system the ability to verify whether the firmware update is capable of upgrading the system and reporting to a user as claimed (“The firmware update application may then perform some validation to verify that the firmware update is the correct one for the target computing platform...” in col. 3 lines 62-65. The result of the verification would be reported to a user). It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to utilize the verification methods of Nevis with the firmware updating system disclosed by Itoh, as this help ensure that the firmware upgrade did not become corrupted while downloading via a network, as disclosed by Nevis in col. 3 lines 62-66.

Per claim 10:

The rejection of claim 9 is incorporated, and further, Itoh discloses instruction code necessary to support replacement of the common firmware version as claimed (“when the second OS is booted, the predetermined application program is loaded...and predetermined processing...BIOS update...is performed...” in col. 16 line 66 to col. 17 line 4)

Allowable Subject Matter

9. Claims 18, 20, 21, 27-29, 31-33 and 38-40 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

The closest found prior art of record, specifically U.S. Patent 6,795,912 to Itoh et al., taken alone or in combination, fails to teach or reasonably suggest a method of performing a firmware upgrade in accordance with independent claims 18 and 27. Specifically, Itoh et al. do not disclose *initiating the install application contained within the firmware install patch, modifying the configuration file in the firmware install path to direct a system loader to execute the firmware install patch instead of an operating system in each computer system in response to a subsequent microprocessor reset; initiating a microprocessor reset; executing the flash application in response to the initiated microprocessor reset; erasing, by the firmware update logic, the firmware within each of the plurality of networked computer systems in response to execution of the flash application; and*

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writing, by the firmware update logic, the new firmware to each of the plurality of network computer systems... (claim 18). Similar limitations are recited in independent claim 27.

While Itoh et al. disclose the ability to download a firmware upgrade patch containing an install application, a bootable kernel, configuration files, a system loader, and a firmware revision, and further discloses the ability to boot into the bootable kernel, Itoh et al. do not disclose the configuration file being modified or otherwise configurable to direct a system loader to execute the firmware install patch instead of an operating system. Rather, Itoh et al. disclose device drivers which are *configured* to enable booting into a bootable kernel, however, the device drivers are not disclosed to be modifiable or otherwise configurable in terms of selecting what element of the system to boot from.

Response to Arguments

11. Applicant's arguments, see pages 10-14 of the remarks, filed 9 June 2005, with respect to independent claims 18 and 27 have been fully considered and are persuasive. The rejection of claims 18 and 27 have been withdrawn.

12. Applicant's arguments filed 9 June 2005, with respect to independent claims 1 and 9 have been fully considered but they are not persuasive.

Per claim 1:

The Applicant initially states that the OS switching and booting program is not part of the boot image file, however, in col. 11 lines 24-31, Itoh specifically states "the boot image file...including application program updating the BIOS, the OS switching and booting program...device drivers..."

As such, the Examiner contends that the OS switching and booting program is part of the boot image file that is downloaded. Further, the Applicant states that Itoh does not disclose a configuration file configured to direct the system loader to execute the firmware patch instead of the operating system. As noted above in the rejection, Itoh discloses device drivers that are configured to direct the system to boot into a second OS, and as such, discloses the required limitations of independent claim 1. The rejection of claim 1 is proper and maintained.

Per claim 9:

The Applicant states that neither Itoh nor Bearden discloses the newly added limitation regarding verifying whether the revised firmware is able to successfully upgrade the common firmware version. Applicant's arguments are considered moot in view of the new grounds of rejection presented above. The rejection of claim 9 is proper and maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trenton J. Roche whose telephone number is (571) 272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trenton J Roche
Examiner
Art Unit 2193

TJR



ANIL KHATRI
PRIMARY EXAMINER